A NEW GENUS OF LIPTENINAE (LEPIDOPTERA : LYCAENIDAE)

By H. STEMPFFER AND N. H. BENNETT

SYNOPSIS

A study of the genitalic affinities within the white *libyssa*-group of the genus *Liptena* has justified the erection of a new genus to contain five previously described species and fifteen newly-isolated species and subspecies which are described and figured hereunder.

IT has long been recognised that the genus *Liptena* Auctorum is a heterotypical one-containing as it does the *undularis*-group, *i.e.* the *Liptena* sensu stricto, the *libyssa*, group, the *tullia*-group, the *ideoides*-group and the *ilma*-group, the last-named already isolated by Karsch in the genus *Tetrarhanis*. In fact, each of these groups appears to merit generic status.

The *libyssa*-group is dealt with in this work. In 1898 Aurivillius in his *Rhopalocera Aethiopica*, designated *libyssa* Hewitson as type of the genus *Liptena*, but this action was invalidated as recently as 1959 by Opinion 566 of the International Commission on Zoological Nomenclature, which ruled that *undularis* Hewitson [1866] should be recognized as the type species, thus cancelling all earlier designations.

The *libyssa*-group differ strongly from the *Liptena* sensu stricto in the structure of the male genital armature; in the true *Liptena* the uncus is crescent-shaped, attached all along its inner margin to the weakly sclerotized tegumen; sometimes the subunci are nearly straight, more often curved dorsad, always completely separated from each other at their distal margins. In the *libyssa*-group the uncus is subtriangular, shield-shaped and only attached to the tegumen at either side and in the centre by a weak ligament. The strongly sclerotized subunci, much elaborated, are fused together along their inner margins. The aedeagus is very long, subcylindrical, sometimes sinuate, sometimes strongly angled near the base, then nearly straight to the distal extremity. These characters are so constant in all the species within the homogeneous *libyssa*-group that we have no hesitation in erecting for it a new genus which we name *Falcuna*. The fused subunci constitute a character unique in the Lycaenidae, so far as is known to the authors.

In *Falcuna* the origins of veins 3 and 4 of the hindwings are slightly separated; in *undularis* they are shortly stalked. However, this does not constitute a true generic character for, in some *Liptena* sensu stricto, e.g. *fatima* Kirby and *submacula* Lathy, the origins of 3 and 4 are also slightly separated.

A remarkable conglomeration of genitalic forms came to light when the British Museum series of "*hollandii*" Aurivillius was examined; no fewer than five forms were covered by the common label. The true identity of the species might never have been established but for the kind co-operation of Dr. H. J. Hannemann of the

Zoologisches Museum der Humboldt Universität, Berlin, who arranged the loan of three of the original series of *hollandii* collected by Dr. Pogge at Mukenge. From these, all labelled " Typus ", a Lectotype has been selected.

On hearing of the confusion prevailing in the British Museum series Monsieur L. A. Berger arranged to have all the Tervuren examples of " *hollandii* ", some thirty in all, sent to us for examination ; a similar medley of forms was discovered by dissection. For the loan of these specimens and also of the type of *Liptena synesia* Hulstaert our thanks are due to the authorities of the Musée Royal de L'Afrique Centrale, Tervuren, and especially to M. Berger for arranging the matter.

Our thanks are also due to Mr. Harry K. Clench, of the Carnegie Museum, Pittsburgh, Pennsylvania, U.S.A., for information concerning the type of *Liptena melandeta* Holland, a species not represented in the British Museum. The type has lost its abdomen and the only other example at Pittsburgh is a female, so it is not possible to give an accurate diagnosis of this species.

The following abbreviations are used in this paper : B.M. (N.H.) for British Museum (Natural History), Mus. Af. Cent. for Musée Royal de l'Afrique Centrale, Tervuren, and Zool. Mus. Berlin for Zoologisches Museum der Humboldt-Universität, Berlin.

FALCUNA gen. n.

Type species : *Liptena libyssa* Hewitson (1866).

Eyes bare ; *palpi* fairly long, projecting forward, clothed with adpressed scales, the second joint swollen, laterally compressed, the third joint slender and bluntly pointed ; *antennae* short, ringed with whitish scales at the joints and with a distinct subcylindrical club, bare at the apex ; *legs* with yellow annular markings.

Wing shape. Forewings : costa evenly arched, apex rounded, outer margin strongly convex. *Hindwings :* rounded, the anal angle not strongly marked.

Male genitalia : uncus a cupped, triangular lobe with a weakly depressed, pointed apex, appearing to be attached to the distal margin of the tegumen only at either side and at the centre ; *subunci* elaborated into two serrate-edged clubs which are fused together along their inner margins, the suture plainly visible under high magnification ; *tegumen* broad ; *anellus* a simple sheath ; *aedeagus* sinuate, tapering gradually from base to apex ; *valva* oblong, apex curving towards the dorsum and bearing a small, weakly sclerotized finger-like process near the dorsal margin, upper dorsal angle sometimes produced into a triangular lobe.

DESCRIPTION OF SPEECIS

Falcuna leonensis sp. n.

(Text-figs. 1–3 ; Pl. 1, figs. 56–59)

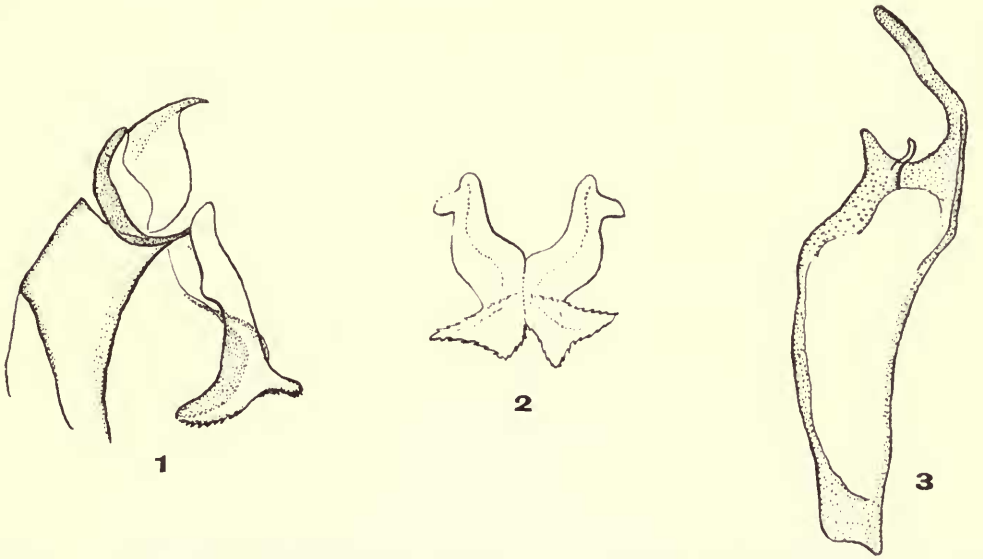
Types in B.M. (N.H.).

♂ *Facies :* Do not differ significantly from those of *libyssa libyssa* Hewitson.

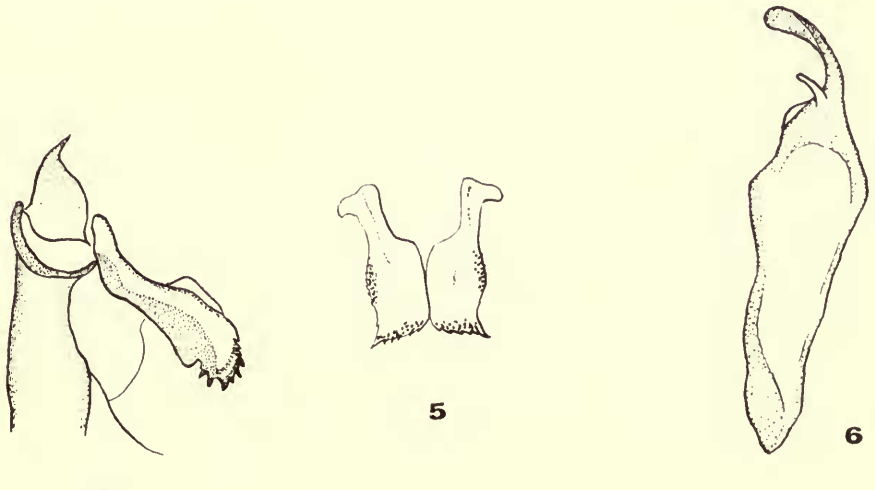
Genitalia : Subunci more finely serrate than those of typical *libyssa*, with a rounded lobe projecting from the outer angle of each half of the fused organs ; a small triangular lobe arises from the upper dorsal angle of the valva.

♀ *Facies :* Similar to those of the male, the only marked difference being the narrower dark costal margin of the upperside forewing.

Holotype ♂ : Sierra Leone, Moyamba, 9.i.1902. B.M. Type No. Rh. 16500.
Allotype ♀ : Sierra Leone. B.M. Type No. Rh. 16501.
Paratypes : Guinea Republic, Macenta, 2000 ft., v.1926, 1 ♂ (C. L. Collenette) ; Sierra Leone, Moyamba, 2 ♂ ; Liberia, Kpaine, 2 ♂, Sopia, 2 ♂ (Dr. W. Peters) ; Ivory Coast, 1919, 2 ♂ (Cremer) ; Morisano, 15.ii.1903, 1 ♂ (Pemberton) ; Ghana, Addah, 1 ♂ (M. Burtt) ; Kumasi, 1 ♂ (J. D. G. Sanders).



Figs. 1–3. *Falcuna leonensis* Stempffer & Bennett : (1) uncus, etc., in profile, (2) subuncus in ventral view, (3) valva.



Figs. 4–6. *Falcuna libyssa libyssa* Hewitson : (4) uncus, etc., in profile, (5) subuncus in ventral view, (6) valva.

Falcuna libyssa libyssa (Hewitson) comb. n.

(Text-figs. 4–6 ; Pl. 1, figs. 60–63)

Liptena libyssa Hewitson (1866 : 120, pl. 60, figs. 5, 6).

Types in B.M. (N.H.), neallotype ♀ here designated.

♂ *Facies :* Upperside fore and hind wings creamy-white ground colour, heavily margined with fuscous brown. Underside forewing ground colour creamy white, with two pale yellow spots in the apex ; hindwing ground colour pale yellow, patterned fuscous brown. (See Pl. 1, fig. 61).

Genitalia : Subunci coarsely serrate, without the projecting lobes which distinguish the preceding subspecies *leonensis*. Valva with a weak rounded lobe at the upper dorsal angle.

♀ *Facies :* Neallotype female with narrower fuscous margins on the upperside than in the male ; on the underside forewing the two apical spots are much larger than in the male ; hindwing ground colour and pattern as in the male.

Holotype ♂ : S. NIGERIA, Calabar (Hewitson coll.). B.M. Type No. Rh. 16502.
Neallotype ♀ : S. NIGERIA, Old Calabar, 86–126. B.M. Type No. Rh. 16503.
Distribution : S. NIGERIA, N. NIGERIA.

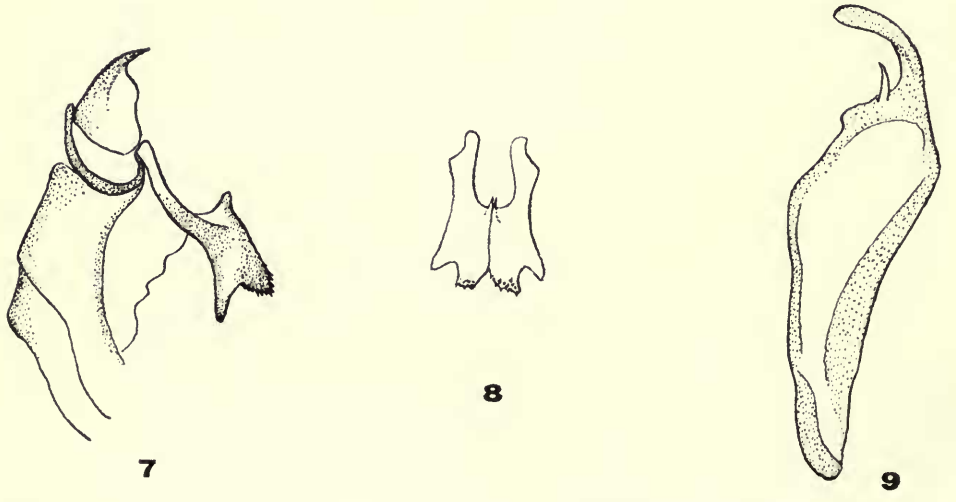
Falcuna libyssa cameroonica ssp. n.

(Text-figs. 7–9 ; Pl. 1, figs. 64–67)

Types in B.M. (N.H.).

♂ *Facies :* The apical area of the upperside forewing is rather broader than in typical *libyssa* ; this appears to be the only difference in the upperside pattern. There is no marked difference in the underside pattern.

Genitalia : Subunci readily distinguishable from those of *libyssa libyssa*, bearing two weak lobes upon the outer surface, a serrated bulge upon the ventral margin and two strongly developed



FIGS. 7–9. *Falcuna libyssa cameroonica* Stempffer & Bennett : (7) uncus, etc., in profile, (8) subuncus in ventral view, (9) valva.

points directed inwards ; valva with a stout apex curved dorsad and with a well-marked lobe on the dorsal margin.

♀ *Facies :* In the female selected as allotype the forewing length is about two and a half millimetres greater than that of the holotype ; the fuscous costal margin is much narrower, as is the hindwing margin, thus there is a great deal more white ground colour on the upperside. The underside forewing has also a greater expanse of white, while the yellow hindwing underside is less heavily marked than in the male.

Holotype ♂ : CAMEROONS, Johann Albrechts Hohe Station, 1898 (*L. Conradt*). B.M. Type No. Rh. 16504.

Allotype ♀ : CAMEROONS, Johann Albrechts Hohe Station, 1896 (*L. Conradt*). B.M. Type No. Rh. 16505.

Paratypes : CAMEROONS, Johann Albrechts Hohe Station, 1898, 3 ♂ (*L. Conradt*).

Distribution : CAMEROONS.

Falcuna libyssa angolensis ssp. n.

(Text-figs. 10–11 ; Pl. 1, figs. 68–71)

Types in B.M. (N.H.).

♂ *Facies :* Slightly smaller than typical *libyssa* ; upperside very similar ; underside less heavily marked.

Genitalia : Lobes of the subunci more finely serrate than in *libyssa*, with two small triangular points projecting from the dorsal surface near the line of fusion ; valvae as in *libyssa*.

♀ *Facies :* Hardly separable from typical *libyssa* on either surface.

Holotype ♂ : ANGOLA, prior to 1875 (*Monteiro*). B.M. Type No. Rh. 16506.

Allotype ♀ : ANGOLA (*Rogers*). B.M. Type No. Rh. 16507.

Paratypes : ANGOLA, 2 ♂, ex coll. Grose Smith.

Distribution : ANGOLA.

FIGS. 10–11. *Falcuna libyssa angolensis* Stempffer & Bennett : (10) uncus, etc., in profile, (11) valva.

Falcuna synesia synesia (Hulstaert) **comb. n.**

(Text-figs. 12–13; Pl. 1, figs. 72–73, Pl. 2, figs. 74–75)

Liptena synesia Hulstaert (1924 : 118).

Type in Mus. Af. Cent.

♂ *Genitalia :* The armature only varies from that of *synesia gabonensis* in small details ; in the ventral view of the fused subunci, wherein the terminal projections are considerably shorter and more outwardly directed from the central line, and in the apex of the valva, more slender and much less falcate than in *gabonensis*.

♀ *Facies :* Upperside forewing with slightly narrower fuscous margins than the male, the costal margin interrupted by a break-through of the discal white area midway between base and apex ; upperside hindwing as in the male, as is the underside pattern of both fore and hindwing.

Holotype ♂ : Mayumbe (*R. Verschueren*). Mus. Af. Cent.

Topotypes : Mayumbe, Bangebange, 1938, 1 ♂, 1 ♀, (*Mme. Menteau*). Mus. Af. Cent. Mayumbe, Luali, vi.1936, 1 ♂ (*F. G. Overlaet*). Mus. Af. Cent.

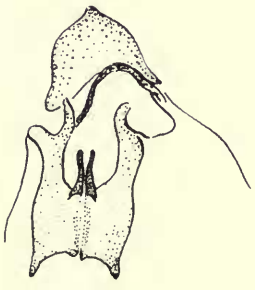
A small series of four males, three in the B.M. (N.H.) and one in the senior author's collection, are differentiated from *synesia synesia* by a darker underside with smaller white areas. As there appears to be no difference in the genitalia this is regarded as a **form n.** and is named *synesia landana*. The three B.M. specimens are from Landana, Cabinda. The male in the Stempffer collection is from Luali, Mayumbe (*F. G.Overlaet*).

Falcuna synesia gabonensis **ssp. n.**

(Text-figs. 14–16 ; Pl. 2, figs. 76–79)

Types in B.M. (N.H.).

♂ *Facies :* Smaller than *libyssa libyssa* ; upperside forewing more heavily margined, with inner edges of fuscous bands diffuse, white ground colour reduced to about one-third of the surface area ; hindwing underside yellow with a clear fuscous pattern.



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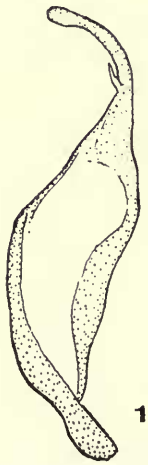

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FIGS. 12–13. *Falcuna synesia* Hulstaert : (12) subuncus, etc., in ventral view, (13) valva.

Genitalia : Subuncus differs sharply from that of the nominate subspecies inasmuch as the two sharp inward pointing angles at the ventral extremity are at least twice as long ; the apex of the valva more strongly falcate.

♀ *Facies :* Forewing approximately two millimetres longer than in the male, costal margin greatly reduced in width ; upperside forewing as in the male, hindwing with broader marginal markings.

Holotype ♂ : Gabon, Abanga R., x.1907 (*Dr. Ansorge*). B.M. Type No. Rh. 16508.

Allotype ♀ : data as Holotype. B.M. Type No. Rh. 16509.

Paratypes : Rio Muni, Balengue, vi.1919, 1 ♂ (*F. Escalera*). Fernando Po, vii.1919, 1 ♂ (*F. Escalera*).

Distribution : Congo Republic (ex French), Gaboon, Rio Muni, Fernando Po.

Falcuna synesia fusca ssp. n.

(Text-figs. 17–19 ; Pl. 2, figs. 80–81)

Type in B.M. (N.H.).

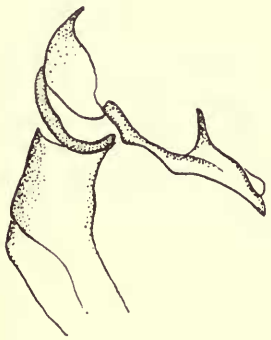
♂ *Facies :* Upperside forewing with only a small white area ; the inner edge of the fuscous margin poorly defined ; upperside hindwing as in *gabonensis*, as is the underside forewing ; the underside hindwing is so heavily margined that less than one-third of its area is of the dingy white ground colour. The holotype is rather more heavily margined than the paratypes.

Genitalia : The subuncus in profile resembles that of *gabonensis* except at the distal end, where there are rounded lobes instead of triangular points ; valvae as in *gabonensis*.

♀. Not known.

Holotype ♂ : Cameroons Republic (ex French), Bitje, 3° N., 12° E., Wet Season, 1926 (*G. L. Bates*). B.M. Type No. Rh. 16510.

Paratypes : Cameroons, Bitje, Dry Season, 1913, 1 ♂ ; Oubangui Chari, Bangassou, 1 ♂ ; both in B.M. (N.H.). Bangassou, 1 ♂ ; Mt. Cameroun, 1 ♂ ; both in coll. Stempffer.



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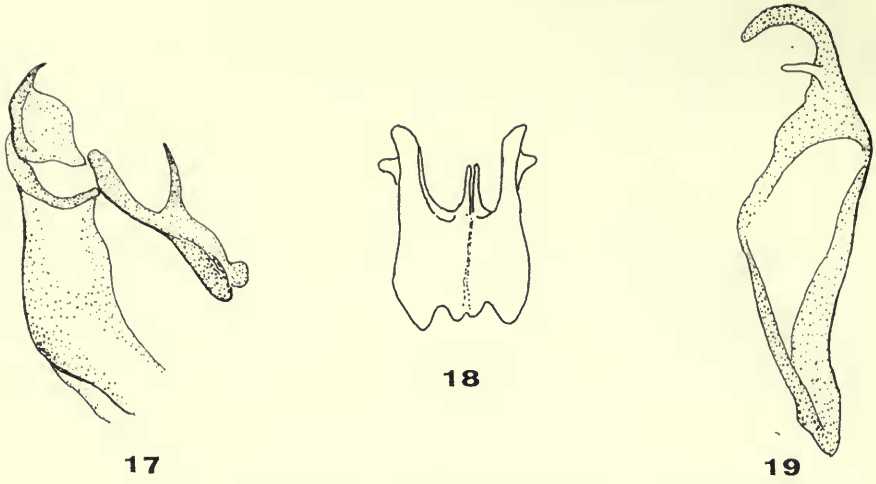
Figs. 14–16. *Falcuna synesia gabonensis* Stempffer & Bennett : (14) uncus, etc., in profile, (15) subuncus in ventral view, (16) valva.



FIGS. 17–19. *Falcuna synesia fusca* Stempffer & Bennett: (17) uncus, etc., in profile, (18) subuncus in ventral view, (19) valva.

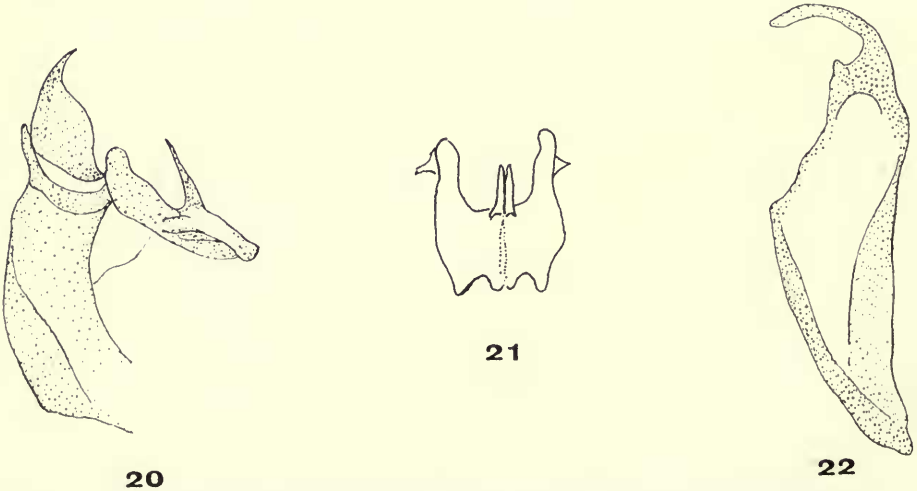
Falcuna lacteata sp. n.

(Text-figs. 20–22; Pl. 2, figs. 82–83)

Types in B.M. (N.H.).

♂ *Facies:* Upperside like that of *synesia landana*; underside forewing also agrees; underside hindwing with a creamy-white ground colour more boldly patterned than in *landana*.

Genitalia: Although the form of the subuncus reveals the affinity of this species to the *synesia*-complex, it differs in its relative shortness, while the dorsally directed prongs are larger and more sharply pointed; the apex of the valva also differs from those of the *synesia*-group in the disposition of the dorsal lobe.



FIGS. 20–22. *Falcuna lacteata* Stempffer & Bennett: (20) uncus, etc., in profile, (21) subuncus in ventral view, (22) valva.

♀ *Facies :* Forewing appreciably longer than in the male ; upperside shows a greater expanse of white ground colour, costal margin narrower ; underside forewing with fuscous outer margin tapering to a point at vein 1 ; underside hindwing more broadly and smoothly outlined than in the male.

Holotype ♂ : Angola (Hewitson collection). B.M. Type No. Rh. 16511.
Allotype ♀ : Angola (Godman-Salvin collection). B.M. Type No. Rh. 16512.
Paratype : Angola, 1 ♂ (Hewitson collection).

Falcuna margarita (Suffert) **comb. n.**

(Text-figs. 23–25 ; Pl. 2, figs. 86–89)

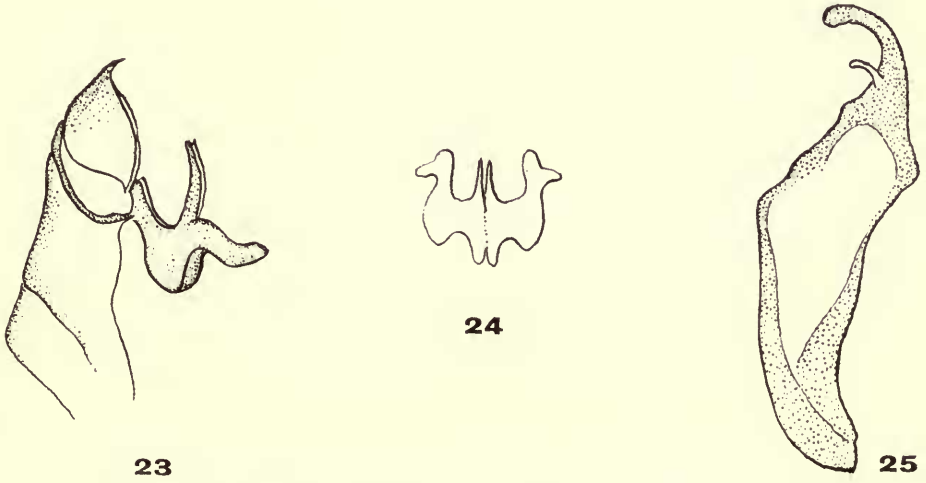
Liptena margarita Suffert (1904 : 51).
Liptena libyssa var. *latemarginata* Schultze (1916 : 38) **syn. n.**

Holotype ♂ in Zool. Mus. Berlin. (Figured by H. H. Druce in 1910 in Illustr. Afr. Lyc., pl. 3, figs. 1, 1*a*.)
Neallotype ♀ (here designated) in B.M. (N.H.).

♂ *Facies :* A point not noted in the original description is that the termination of the antennal club is bright yellow.

Genitalia : Subunci less broad than in *kasai*, with a strong pair of arms, curved dorsad, upon the outer surface ; a broad rounded bulge upon the inner margin ; apex of valva less stout than in *kasai*, falcate, with a finger-like process near the dorsal margin, which has a pronounced angle midway between base and apex.

♀ *Facies :* Forewing about two millimetres longer than in the male, costal margin narrower, less fuscous basal suffusion and so the area of whitish ground colour is more extensive upon the upperside ; hindwing upperside also displays a greater amount of white as there is no fuscous suffusion on the inner margin. Underside forewing has whitish ground colour tinged with pale yellow towards the costal margin ; costal, apical and outer margins fuscous, two large yellow spots in the apex, a faint broken yellow submarginal line near the outer margin, somewhat



Figs. 23–25. *Falcuna margarita* Hewitson : (23) uncus, etc., in profile, (24) subuncus in ventral view, (25) valva.

dilated in spaces 2 and 3 ; underside hindwing more lightly patterned than in the male. Fringes of forewing fuscous, interrupted with whitish scales ; of hindwing yellowish buff.

Holotype ♂ : Cameroon, Lolodorf (*von Conradt*).

Neallotype ♀ : Cameroons, Bitje, Ja Riv., 2000 ft., ix–xi.1932. B.M. Type No. Rh. 16513.

Distribution : Cameroons (ex French) ; Gaboon ; Congo Republic (ex Belgian), Ituri, Katanga.

Falcuna kasai sp. n.

(Text-figs. 26–28 ; Pl. 2, figs. 90–91 ; Pl. 3, figs. 92–93)

Types in B.M. (N.H.).

♂ *Facies :* Smaller than *margarita* ; both fore and hindwing uppersides less heavily margined and ground colour purer white ; underside forewing with more sharply defined margins, hindwing with fuscous pattern less broken than *margarita*.

Genitalia : Subuncus deeper and shorter in profile than that of *margarita*, with wider and longer ventral terminations, distal extremity of valva much stouter and more falcate, with a blunt triangular lobe on the dorsal margin near the apex.

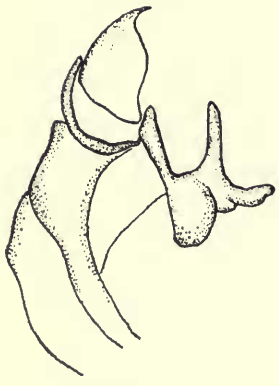
♀ *Facies :* Upperside fore and hindwings with narrower margins than *margarita* ; outer margin of forewing more convex ; underside forewing similar to *margarita* ; hindwing with fuscous pattern less broken.

Holotype ♂ : Kasai Riv., Luebo (*P. Landbeck*), B.M. Type No. Rh. 16514.

Allotype ♂ : data as Holotype. B.M. Type No. Rh. 16515.

Paratypes : Kasai Dist. (ex Belg.) Luluabourg, a series, 20 ♂, 5 ♀ (*R. H.Carcasson*) in Coryndon Museum, Nairobi.

Distribution : Congo F. S., Kasai Dist.



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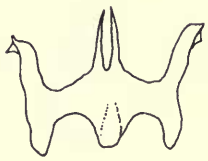

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Figs. 26–28. *Falcuna kasai* Stempffer & Bennett : (26) uncus, etc., in profile, (27) subuncus in ventral view, (28) valva,

Falcuna orientalis (Bethune-Baker) **comb. n.**

(Text-figs. 29–31 ; Pl. 3, figs. 94–97)

Liptena libyssa orientalis Bethune-Baker (1906 : 339).
Liptena libyssa confluens Grünberg (1908 : 50) (**syn. n.**).

Holotype ♂, Neallotype ♀ (here designated), in B.M. (N.H.).

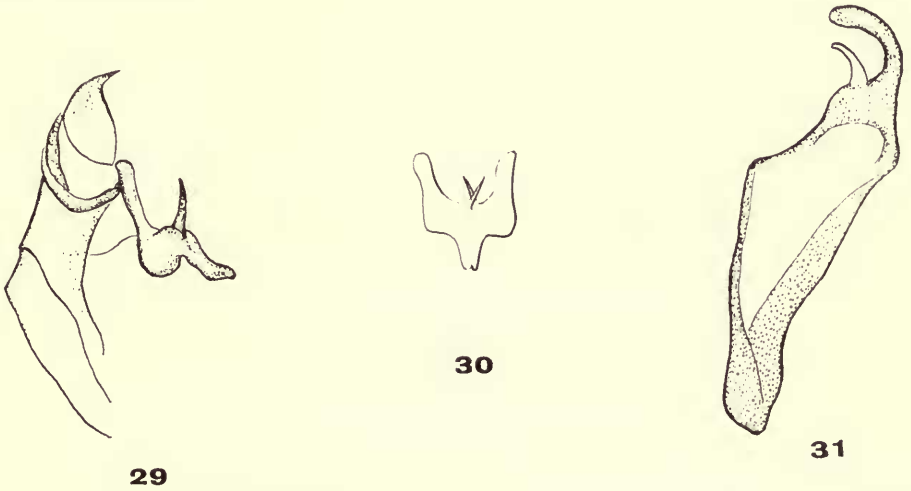
♂ *Genitalia :* In profile the subuncus is reminiscent of those of *margarita* and *kasai*, but from the ventral aspect there is a marked difference ; the finger-like process on the dorsal margin of the valva is also relatively larger, curving in the same plane as the apex.

♀ *Facies :* Neallotype female a little larger than the male, upperside margins slightly narrower, thereby displaying a greater area of white ground colour ; underside pattern closely resembles that of the male.

Holotype ♂ : UGANDA, Mengo, iii.1900 (*Jackson* leg.). B.M. Type No. Rh. 16516.

Neallotype ♀ : UGANDA, Entebbe, ix.1900 (*Capt. H. B. Rattray*). B.M. Type No. Rh. 16517.

Distribution : UGANDA, Entebbe ; Kampala ; Mabira F. ; Mulanje : Bugoma F. ; Budongo F.; Bajo ; Daro F.; Munyonyo, Unyoro ; B.E.A., Yala R.; Kibwezi ; Slopes of Mt. Elgon.



FIGS. 29–31. *Falcuna orientalis* Bethune-Baker : (29) uncus, etc., in profile, (30) subuncus in ventral view, (31) valva.

Falcuna orientalis bwamba **ssp. n.**

(Text-figs. 32–34 ; Pl. 3, figs. 98–101)

Types in B.M. (N.H.).

♂ *Facies :* Upperside fore and hindwings almost identical with those of *orientalis*. The underside forewing is also alike, but the underside hindwing is conspicuously different, the fuscous pattern on the pale yellow ground is reduced in area to a greater degree than in any other form within the genus ; it most closely resembles the pattern of *libyssa angolensis*.

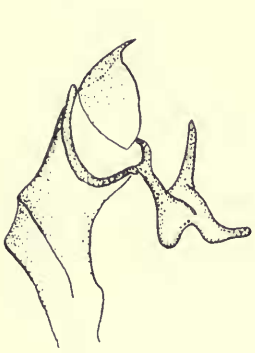
Genitalia : The reason for giving this form no more than subspecific rank lies in the fact that the armature only differs in minor degree from that of *orientalis*. In profile the bulge on the underside of the subuncus is narrower in *bwamba* and the ventral lobe on the apex of the valva is much reduced.

♀ *Facies :* Upperside fore and hindwing as in *orientalis*, underside forewing also ; underside hindwing strongly differing as in the male, the fuscous pattern slightly heavier than in the opposite sex.

Holotype ♂ : Uganda, Bwamba, viii.1942 (*T. H. E. Jackson*). B.M. Type No. Rh. 16518.

Allotype ♀ : Uganda, Bwamba, x.1942 (*T. H. E. Jackson*). B.M. Type No. Rh. 16519.

Distribution : Uganda, Bwamba ; Itoa R., Ituri For. ; Upper Maico Val. ; W. Semliki Val.; Rutshuru R., N. Kivu ; Mulanje, Maniema Distr., Congo (ex Belg.).



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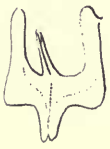

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Figs. 32–34. *Falcuna orientalis bwamba* Stempffer & Bennett : (32) uncus, etc., in profile, (33) subuncus in ventral view, (34) valva.

Falcuna hollandii suffusa ssp. n.

(Text-figs. 35–37 ; Pl. 3, figs. 102–105)

Types in B.M. (N.H.).

♂ *Facies :* A fairly small subspecies, with wide fuscous margins on the upperside of both fore and hindwings, the inner edges of the margins diffuse and ill-defined in comparison with the clear-cut edges in *hollandii*. The whitish central area is reduced to less than one-third of the forewing, a little more on the hindwing. Underside forewing with a dark costal margin and apical triangle, the outer margin tapering from the apex to a point at vein 2, a clear white hind margin ; underside hindwing so heavily marked as to appear black, sparsely spotted with creamy white.

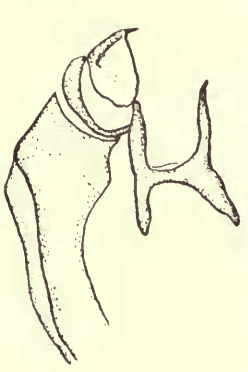
Genitalia : In *hollandii* and its subspecies the subuncal lobes are developed to a greater degree than in any other form in the genus ; two stout arms descend from the inner surface and a pair of strong tapering arms ascend from the outer surface near the point of fusion, while the free end of the fused lobes is drawn out in a long blunt point. Valva with a moderately long, almost straight ventral apex, the upper dorsal margin is produced into a tapering lobe, curved towards the apex and about three quarters as long.

♀ *Facies :* Forewing about two millimetres longer than in the male ; fuscous margins narrower and more clearly defined upon their inner edges, white ground colour more extensive. Hindwing upperside as in the male. Underside of both wings as in the male.

Holotype ♂: S. CAMEROONS, Bitje, Ja Riv., iv–vi.1919 (Lesser rains) (*G. L. Bates*). B.M. Type No. Rh. 16520.

Allotype ♀: same data as holotype. B.M. Type No. Rh. 16521.

Paratypes : CAMEROONS, Bitje, 10 ♂, 8 ♀; SPAN. GUINEA, 1 ♂, all in B.M. (N.H.).



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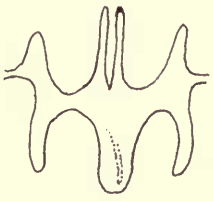

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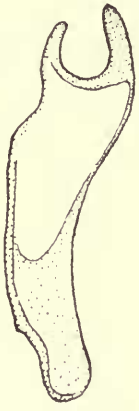

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FIGS. 35–37. *Falcuna hollandii suffusa* Stempffer & Bennett : (35) uncus, etc., in profile, (36) subuncus in ventral view, (37) valva.

Falcuna hollandii hollandii (Aurivillius) comb. n.

(Text-fig. 38 ; Pl. 3, figs. 106–107)

Liptena Hollandii Aurivillius (1895 : 200).

Lectotype in Zool. Mus. Berlin.

Three males of the original series collected by Dr. H. Pogge at Mukenge, from which the Dewitz figures in *D. ent. Zeitschr.* 1886, taf. 2, figs. 4 and 4*a* were derived, were made available for study by the courtesy of Dr. Hanneman, of the Zoologisches Museum der Humboldt Universität, Berlin. All three specimens are labelled " Typus " and the best of these has been selected as Lectotype.

It should here be pointed out that the Dewitz figure of the underside hindwing cannot be taken as a guide to determination as it distorts the placing of the triangular white spot on the costa, showing it too near the base of the wing.

It is possible to see the genitalia of the Lectotype *in situ*, so there is no doubt as to its identity. With this and the other two Mukenge males as a basis for determination it has been possible to isolate four further examples of the species, all from Kasai Prov., from the mixture of B.M. (N.H.) material, as well as a male from the Coryndon Museum, Nairobi.

♂ *Facies :* Rather larger than *suffusa*, with darker fuscous margins ; white spots of hindwing underside more extensive.

Genitalia : As described and figured for *suffusa*.

♀ Not known.

Lectotype ♂ : Mukenge (*Dr. Pogge*). Zool. Mus. Berlin. Also in Berlin, 2 ♂, same data ; Congo F. S., Upper Kasai, 2 ♂ (*F. Landbeck*), B.M. (N.H.) ; Kasai, Luebo, 1 ♂ (*F. Landbeck*), B.M. (N.H.) ; Kasai, Kapulumbo, 1 ♂ (*Landbeck*), B.M. (N.H.) ; Kasai, Mwene Ditu, iii.1959, 1 ♂ (*R. H. Carcasson*), Coryndon Museum, Nairobi.

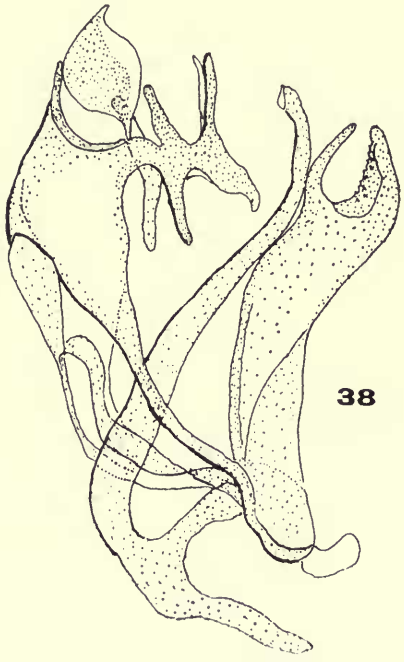


Fig. 38. *Falcuna hollandii hollandii* Aurivillius : (38) armature in profile, one valva removed.

Falcuna hollandii nigricans ssp. n.

(Pl. 3, figs. 108–109 ; Pl. 4, figs. 110–111)

Types in Mus. Af. Cent.

♂ *Facies :* This subspecies appears to differ slightly from one locality to another, but in all cases is separable from *suffusa* and *hollandii* by appearing really black and white as compared with fuscuous brown and white. The male selected as holotype, from Sankuru, Katako Kombe, has the white area of the upperside forewing restricted to a small, almost circular patch based midway along the hind margin. The hindwing white area is also quite small. Except in coloration the underside does not differ significantly from the other subspecies.

Genitalia : As described for the subspecies *suffusa*.

♀ *Facies :* Upperside forewing with costal black band linear, the large central area pure white and sharply defined. Hindwing upperside also with a pure white central area, with the bold underside pattern showing through. Underside forewing with a narrow, parallel-sided costal band

from base to midway along the margin, where it is interrupted by the central white area. Underside hindwing patterned with large spots of pure white on a black background.

Holotype ♂: Sankuru, Katako Kombe, 24.iii.53 (*Dr. Fontaine*). Mus. Af. Cent.
Allotype ♀: Sankuru, Katako Kombe, 24.iv.53 (*Dr. Fontaine*). Mus. Af. Cent.
Paratypes: Sankuru, Katako Kombe, 30.vii.52, 1 ♂ (*Dr. Fontaine*); Sankuru, Kohindi, 15.xii.52, 1 ♂ (*Dr. Fontaine*); Sankuru, 17.iii.53, 1 ♂ (*Dr. Fontaine*).
Other material: Congo (ex Belg.) Uele, Paulis, various dates, 2 ♂, 4 ♀ (*Dr. M. Fontaine*); Equateur, Eala, viii.1933, 1 ♂ (*Mme. J. Ghesquière*); Katanga, Kalenje, Kapanga, xii.1933, 1 ♂ (*F. G. Overlaet*); Sankuru, Mbangobango, 23.xi.49, 1 ♂ (*Dr. M. Fontaine*); Tshuape, Bokote, 1927, 1 ♂ (*R. P. Hulstaert*); Uele, Zobia-Niapu-Poko, ix.1911, 1 ♂ (*Mme. Hutereau*), all in Mus. Af. Cent. Congo (ex Fr.) Etoumbi, xii.1960, 1 ♂ (*T. H. E. Jackson*), Stempffer coll., Paris.

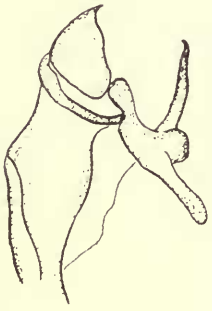
Falcuna iturina sp. n.

(Text-figs. 39–41; Pl. 4, figs. 112–115)

Holotype ♂ in B.M. (N.H.).
Allotype ♀ in B.M. (N.H.) (T. H. E. Jackson collection).

♂ *Facies*: Differs from *hollandii* in having rather larger areas of white ground colour on upperside fore and hindwing, with narrower fuscous margins; the hind margin of upperside hindwing is not bordered fuscous. Underside white areas of both wings larger and brighter than in *hollandii*.

Genitalia: Subuncus bearing upon the outer surface a pair of strong arms, slightly hooked at the tips, arising from rounded bulges; free ends of the subuncal lobes narrow, rounded; there is no interruption of the smooth profile of the inner surface. Valva with a blunt ventral apex, furnished on its dorsal margin with short spines; from the upper dorsal margin arises a smooth lobe about half as long as the apex.



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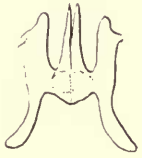

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Figs. 39–41. *Falcuna iturina* Stempffer & Bennett; (39) uncus, etc., in profile, (40) subuncus in ventral view, (41) valva.

♀ *Facies :* Very similar in appearance to the male, but forewing length about two millimetres greater. Spots of underside hindwing rather more creamy-white than in the male.

Holotype ♂ : E. Congo, Osa-Lowa Watershed, viii.1921 (*T. A. Barns*). B.M. Type No. Rh. 16522.

Allotype ♀ : Congo Rep. (ex Belg.) Beni, Ituri, 4000 ft., April 1947 (*T. H. E. Jackson*).

Paratypes : Congo Rep. (ex Belg.) Ituri F., i.1920, 3 ♂ (*T. A. Barns*) ; Cartouche nr. Lesse, W. Semliki R., i.1920, 1 ♂ (*T. A. Barns*) ; Uganda, Bwamba, iv–xii.1942, 1 ♂ (*T. H. E. Jackson*).

***Falcuna semliki* sp. n.**

(Text-figs. 42–43 ; Pl. 4, figs. 116–117)

Type in B.M. (N.H.).

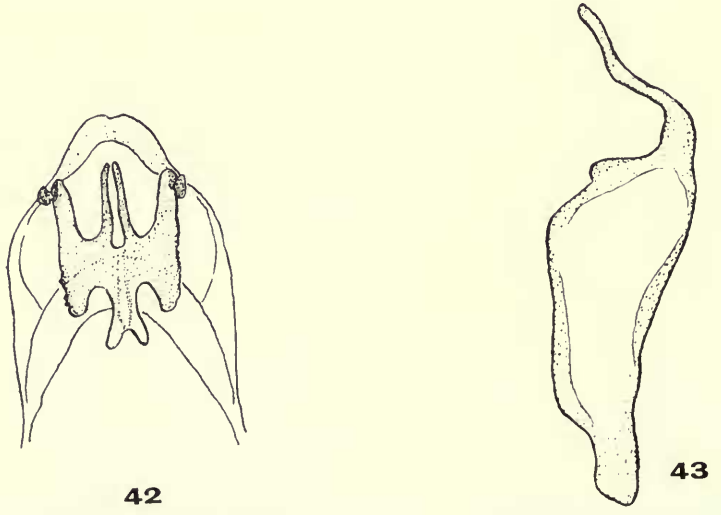
♂ *Facies :* Upperside fore and hindwings having moderately wide fuscous margins, with clearly defined inner edges. The ground colour, pure white, is less restricted than in the associated species *reducta,* to which *semliki* is allied by the pattern of the genitalia. Underside forewing with a narrow fuscous costal margin, no basal suffusion, a wide fuscous apical area tapering to a line on the outer margin ; underside hindwing heavily marked fuscous, only about one-third of the total expanse milky-white.

Genitalia : As the subuncus in profile displays no marked character it is figured here from the ventral aspect. Two long, tapering arms arise from the outer surface near the point of fusion. The outer ends of the subunci are, in this species and in *reducta,* welded together in the form of a " fishtail ", but in *semliki* this feature is considerably more produced than in *reducta.* The valva is long, with a slender apex inclined dorsad ; there is a small bulge on the upper dorsal margin.

♀. Not known.

Holotype ♂ : Congo Rep. (ex Belg.) West Semliki Val., Escarpment, 20 m. S.W. of Boga (*T. A. Barns*). B.M. Type No. Rh. 16523.

The specimen described above is unique.



Figs. 42–43. *Falcuna semliki* Stempffer & Bennett : (42) subuncus, etc., in ventral view, (43) valva.

Falcuna reducta sp. n.

(Text-figs. 44–45 ; Pl. 4, figs. 118–121)

Holotype ♂ in B.M. (N.H.).
Allotype ♀ in Mus. Af. Cent.

♂ *Facies :* Upperside forewing dark fuscous, the white area reduced to a small, almost circular, poorly defined zone situated midway along the hind margin ; upperside hindwing with very wide fuscous margins, more clearly defined than in the forewing. Underside forewing with broad costal and apical margins, tapering to a point on the outer margin ; hindwing underside suffused to such an extent as to show no more than a few small creamy white spots.

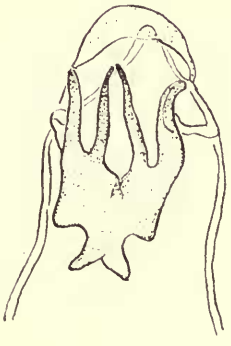
Genitalia : As in the preceding species the subuncus in profile displays no significant detail, so again it is figured from the ventral aspect. It closely resembles the armature of *semliki*, but the outer ends of the subuncal lobes are united in a shorter " fishtail ". The apex of the valva seems rather longer than in *semliki*.

♀ *Facies :* Upperside forewing with much larger and more clearly defined white central disc than in the male ; forewing length about the same ; upperside hindwing as in the male, as is the underside forewing ; underside hindwing with larger white spots, especially the one placed centrally on the wing.

Holotype ♂ : CAMEROONS, Bitje, Ja Riv., 2,000 ft. (*G. L. Bates*). B.M. Type No. Rh. 16524.

Allotype ♀ : CAMEROONS, Bitje (*Bates*). Mus. Af. Cent.

Paratypes : CAMEROONS, Bitje, 6 ♂ in B.M. (N.H.) ; CAMEROONS, Bitje, 1 ♂ in Mus. Af. Cent.



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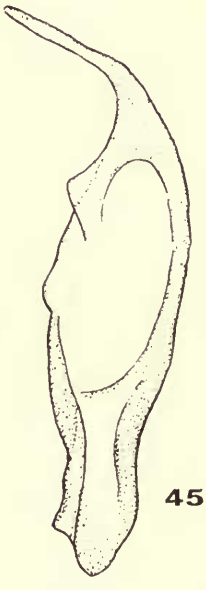

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FIGS. 44–45. *Falcuna reducta* Stempffer & Bennett : (44) subuncus, etc., in ventral view, (45) valva.

Falcuna dorotheae sp. n.

(Text-figs. 46–48 ; Pl. 4, figs. 122–123)

Type in B.M. (N.H.).

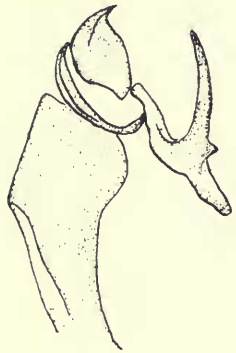
♂ *Facies :* Upperside forewing and hindwing broadly fuscous, inner margins not clearly defined ; creamy white basal area on both wings ; underside forewing with narrower fuscous margins than above, with two off-white spots in the apex and two more, smaller, on the outer margin ; underside hindwing heavily marked with a fuscous pattern typical of the group.

Genitalia : Subuncal lobes bearing a very large pair of slightly curved and tapering arms upon their outer surface, no projections from their inner surface, terminal points bluntly rounded ; valva with a broader and less falcate apex than in *overlaeti*, with a smoothly rounded tip, a small triangular lobe near the dorsal margin.

♀. Not known.

Holotype ♂ : CAMEROONS, Bitje, Ja Riv., 2,000 ft., x–xi.1912. B.M. Type No. Rh. 16525.

Paratypes : CAMEROONS, Bitje, 3 ♂ ; N.W. KIVU, Lowa Val., 3 days above Walikele, 4,300 ft., ix.1921, 1 ♂ (*T. A. Barns*).



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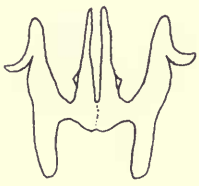

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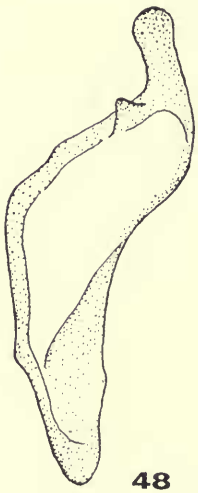

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FIGS. 46–48. *Falcuna dorotheae* Stempffer & Bennett : (46) uncus, etc., in profile, (47) subuncus in ventral view, (48) valva.

Falcuna overlaeti sp. n.

(Text-figs. 49–50 ; Pl. 4, figs. 124–125)

Type in Mus. Af. Cent.

♂ *Facies :* This is the smallest representative of the genus. The upperside forewing costal margin is narrow, the apical triangle extending from halfway along the costal margin and prolonged in a three-millimetres wide outer margin. Hindwing with a moderately wide fuscous margin. Underside forewing with a pure white, clearly defined central area which breaks through to the outer edge of the costal margin at about midway between base and apex. There is a pro-

minent wedge-shaped white spot in the apex and an ill-defined row of white patches along the outer margin. Underside hindwing with the usual basic pattern of the genus, the white patches fairly large.

Genitalia : Subuncal lobes of similar pattern to those of *F. dorotheae* ; valvae also similar, but with narrower apices more sharply falcate than in that species.

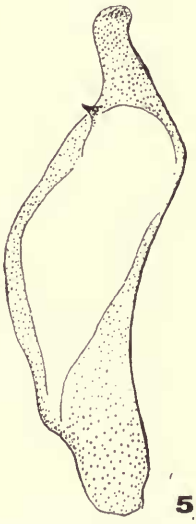
♀. Not known.

Holotype ♂ : Congo (ex Belg.) Kapanga, Lulua (*F. G. Overlaet*).

The specimen described above is unique.

Named for the late F. G. Overlaet, the noted collector and taxonomist.

49



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Figs. 49–50. *Falcuna overlaeti* Stempffer & Bennett : (49) uncus, etc., in profile, (50) valva.

Falcuna campimus campimus (Holland) **comb. n.**

(Text-figs. 51–52 ; Pl. 4, figs. 126–127 ; Pl. 5, figs. 128–129)

Larinopoda campimus Holland (1890 : 427).
Liptena campimus (Holland) Seitz (1918 : 331, pl. 63*g*, ♂).

Type not seen.

Neallotype ♀ (here designated) in B.M. (N.H.).

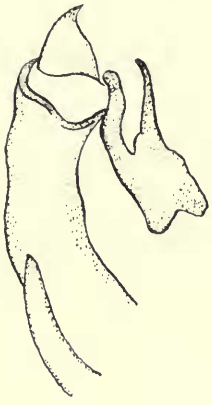
Genitalia : Distinct from any other in the genus in the strongly depressed apex of the valva and in the curved distal end of the aedeagus, which almost follows the outline of the valvae. Subuncus with two strong arms arising from near the suture on the outer surface, these extend parallel with the surface, directed dorsad. The outer ends of the subuncal lobes are much broadened and bluntly rounded ; there are no projections from the inner surface. Valva with a curved apex, fairly broad, a lobe arising from the upper dorsal margin about three-quarters as long as the apex.

♀ *Facies :* A little larger than the male, with narrower fuscous margins of the forewing upperside. The white areas of both fore and hindwing more extensive. Underside hardly differs from the male in either wing.

Holotype ♂ : Gaboon, Upper waters of R. Ogove (*Rev. A. C. Good*).

Neallotype ♀ : S. Nigeria, Akpabuyo, viii.1920 (*D. Cator*). B.M. Type No. Rh. 16526.

Distribution : Gaboon, S. Nigeria, Ivory Coast, Liberia, Sierra Leone, S. Cameroons, Mamfe, Victoria Kumba.



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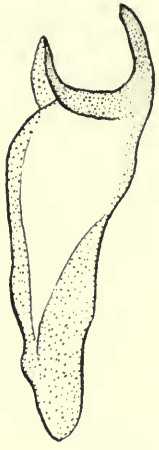

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Figs. 51–52. *Falcuna campimus campimus* Holland : (51) uncus, etc., in profile, (52) valva.

Falcuna campimus dilatata (Schultze & Aurivillius) **comb. n.**

(Pl. 5, figs. 130–131)

Liptena campimus var. *dilatata* Schultze & Aurivillius (1923 : 1177).

Neotype and neallotype (here designated) from the T. H. E. Jackson coll.

It should here be stated that the authors can reach no certain conclusions about the status of this form, although the recent acquisition of an authentic pair of specimens from Obudu, Ogoja Province, S. Nigeria throws some light upon the problem.

Schultze described his "*var. dilatata*" from specimens from "N.W. Kamerun", without any precise locality, comparing them with a unique female of "*campimus campimus*" from South Cameroons, Elefantenberg near Kribi. He cited as the most outstanding character of *dilatata* the very wide dark margins of the upperside of both fore and hindwings, the white area of the forewing strongly reduced. On the underside also the white patches are restricted. Schultze did not state the sex of his type so we do not know whether he compared both sexes with his unique female of *campimus*. We have been unable to examine any specimens from N.W. Cameroons.

In the B.M. (N.H.) collection there is a series of males from Ghana, Kumasi, all the individuals of which agree with the *dilatata* description, so that at first it would seem that this is a good subspecies. The question becomes more involved, however, when we consider the Nigerian material, which has been determined as follows :

Ahoada Prov., Eleala, *c. campimus* ♀ ; *c. dilatata* ♂
Onitscha Prov., Mamu For., ,, ♀
Ogoja Prov., Obubia, ,, ,, ♂, ♀; ,, ,, ♂
,, ,, Ikom, ,, ,, ♂, ♀; ,, ,, ♂
,, ,, Obudu, ,, ,, ♂, ♀

According to information received from T. H. E. Jackson, his native collector working the last-named locality took a few specimens of *dilatata* but no *c. campimus* among several hundreds of Lipteninae of various species.

The female of *campimus dilatata* differs from that of *c. campimus* in the following characters :

Upperside : The black margins of both wings are widened, but in the forewing not so much as in the male.

Underside : The central white patch of the hindwing is reduced, clear-cut and silvery-white in this form, slightly creamy-white in *C. campimus*.

As the Schultze types are lost we select as neotype and neallotype the pair collected in June, 1961, at Obudu, from the T. H. E. Jackson collection, now in the B.M. (N.H.).

Despite making dissections of all available males we can discover no reliable differences to separate the two forms.

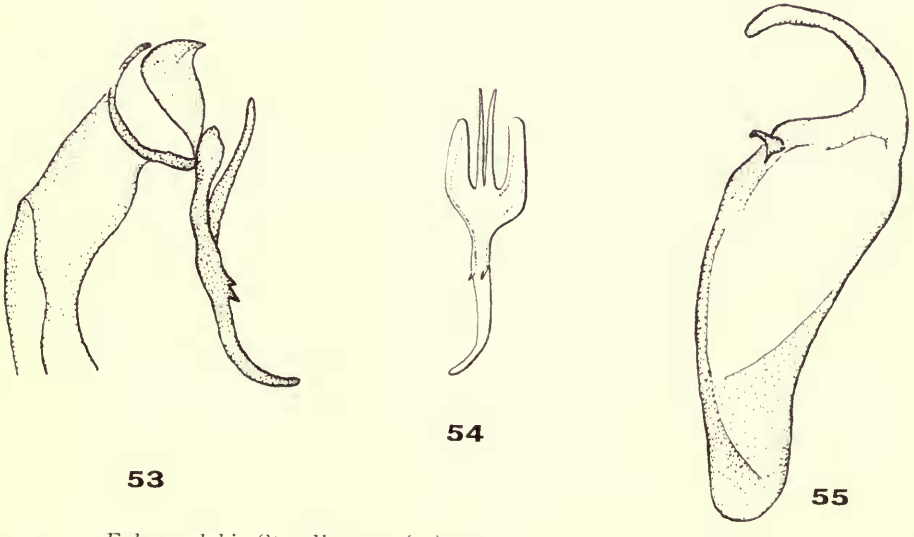
Distribution : N.W. Cameroons, Nigeria, Gold Coast.

Falcuna lybia (Staudinger) **comb. n.**

(Text-figs. 53–55 ; Pl. 5, figs. 132–135)

Larinopoda lybia Staudinger (1891 : 217).
Liptena lybia (Staudinger) Seitz (1918 : 331, pl. 63*g*, ♂).

Holotype ♂, Neallotype ♀ (here designated) in B.M. (N.H.).



Figs. 53–55. *Falcuna lybia* Staudinger : (53) uncus, etc., in profile, (54) subuncus in ventral view, (55) valva.

Genitalia : Readily distinguishable from any other within the genus by the slender construction of the subuncal lobes, which are strongly excurved at the free end and without projections from the inner surface. The valvae also differ considerably, the apices curving almost in a semicircle, with a very small finger-like process on the dorsal margin a long way from the apex.

♀ *Facies :* Differ only slightly from those of the male, being a little larger and with a more extensive white area on the upperside forewing.

Holotype ♂ : Gaboon (*Mocquerys*). B.M. Type No. Rh. 16527.

Neallotype ♀ : Gaboon, ex Godman-Salvin collection. B.M. Type No. Rh. 16528.

Falcuna melandeta (Holland) **comb. n.**

Larinopoda melandeta Holland (1893 : 25).

Type in the Carnegie Museum, Pittsburgh, Pa., U.S.A.

For information concerning this species were are indebted to Mr. Harry K. Clench of the Carnegie Museum.

Unfortunately it is not possible to assign this species to any fixed place in the foregoing scheme as the type is without its abdomen and the only other example is a female. From the author's description of the facies, however, we may safely ascribe it to this genus.

Habitat : Gaboon, Talaguga, Upper Valley of the Ogove.

BIBLIOGRAPHY

Aurivillius, C., 1895, Beiträge zur Kenntniss der Insektenfauna von Kamerun, *Entomologisk Tidskrift* 1895 : 195–220.

Bethune-Baker, G. T., 1906, Descriptions of African Lepidoptera. *Ann. Mag. nat. Hist.* (7) **18** : 339–346.

Grünberg, K., 1908, Neue Lepidopteren aus Uganda. *S.B. Ges. naturf. Fr. Berl.* **1908** : 50–62.

Hewitson, W. C., 1866, *Illustrations of New Species of Exotic Butterflies*, **3** : 120 pp. 60 pls.

Holland, W. J., 1890, Descriptions of New West African Lycaenidae. *Psyche* **5** : 423–431.

—— 1893, Some New and Little-known African Butterflies. *Ent. News*, **4** : 22–28, pl. 1.

Hulstaert, P. G., 1924, Lycaenidae nouveaux des Collections du Musée du Congo Belge. *Rev. Zool. Afr.* **12** : 112–122.

Schultze, A., 1916, Weitere neue Rhopaloceren aus der Ausbeute der II Inner-Afrika-Expedition des Herzogs Adolf Friedrich zu Mecklenburg. *Archiv. Naturgesch.* 1916, Abt. A, **3** :

—— & Aurivillius, C., 1923, *Ergebnisse der Zweiten Deutschen-Zentral Afrika Exp.*, 1910–1911, Zool. **2**, Lepidoptera (Teil 3) : 1177.

Seitz, A., 1925, *Macrolepidoptera of the World*, **13** : 331.

Staudinger, O., 1891, Neue afrikanische Lycaeniden. *Iris*, **4** : 215–223.

Suffert, E., 1904, Neue afrikanische Tagfalter. *Iris*, **17** : 12–107.

PLATE 1

Figs. 56–73. Uppersides and undersides, respectively, of *Falcuna :* (56, 57) *leonensis* Stempffer & Bennett, male (*B.M. Neg. Nos. 28204a, b*) ; (58, 59) female (*28205 b, a*) ; (60, 61) *libyssa libyssa* Hewitson, male (*28212a, b*) ; (62, 63) female (*28185a, b*) ; (64, 65) *libyssa cameroonica* Stempffer & Bennett, male (*28206b, a*) ; (66, 67) female (*28207a, b*) ; (68, 69) *libyssa angolensis* Stempffer & Bennett, male (*28208a, b*) ; (70, 71) female (*28209b, a*) ; (72, 73) *synesia synesia* Hulstaert, male (*28316, 28317*).